Catalyst 3508G XL Stackable Gigabit Ethernet Switch

THE CATALYST® 3508G XL EIGHT-PORT STACKABLE GIGABIT ETHERNET SWITCH IS A MEMBER OF CISCO SYSTEMS CATALYST 3500 SERIES XL, A SCALABLE LINE OF STACKABLE 10/100 AND GIGABIT ETHERNET SWITCHES THAT DELIVERS PREMIUM PERFORMANCE, MANAGEABILITY, AND FLEXIBILITY WITH UNPARALLELED INVESTMENT PROTECTION.

The Catalyst 3508G XL switch features eight gigabit interface converter (GBIC)-based 1000BaseX ports and a 10-Gbps switching fabric. These features make this switch ideal for wiring closet aggregation of 10/100 switches with Gigabit Ethernet uplinks and Gigabit Ethernet servers. Available in Standard and Enterprise editions, the Catalyst 3508G XL switch is software upgradable, so your investment is protected and your LAN can grow and evolve with your network requirements. The switch is easy to deploy, either on a desktop or in a wiring closet, and features Cisco IOS® software support.

The Catalyst 3508G XL is a Gigabit Ethernet aggregation switch that provides eight GBIC-based Gigabit Ethernet ports and a 10-Gbps switching fabric, making it an ideal solution for aggregating LAN segments and connecting to the network backbone.

New Cisco Scalable Stacking Architecture

Cisco Systems, the leader in internetworking solutions, provides the industry's most flexible, scalable, and manageable stacking architecture for Catalyst 3500 series XL and gigabit-enabled Catalyst 2900 series XL switches.

Flexible Stacking

The Catalyst 3500 series XL and gigabit-enabled Catalyst 2900 series XL switches can be stacked using the low-cost Cisco GigaStack GBIC. The two-port GigaStack GBIC offers a range of highly flexible stacking and performance options. It delivers 1-Gbps connectivity in a daisy-chained configuration or up to 2-Gbps full-duplex connectivity in a dedicated, switch-to-switch configuration.

Cisco Switch Clustering

In addition, Cisco takes stacking to a new level with Switch Clustering technology. This breakthrough technology enables up to 16 interconnected Catalyst 3500 XL, 2900 XL, and Catalyst 1900 switches, regardless of geographic proximity, to form a managed, single-IP address network. These switches can be clustered using a broad range of connectivity options to deliver different levels of performance to meet customers' requirements. Clustering connectivity options for the Catalyst 3508G XL include low-cost Cisco GigaStack GBIC, Gigabit Ethernet, and Gigabit® EtherChannel. Because Cisco Switch Clustering technology is not limited by proprietary stacking modules and stacking cables, it expands the traditional stacking domain beyond a single wiring closet, and lets users "mix and match" interconnections to meet their specific management, performance, and cost requirements.

CISCO SYSTEMS

Catalyst 3500 XL switches can be configured either as command or member switches in a Cisco switch stack or cluster. The command switch serves as the single IP address management point and disburses all management action dictated by the network administrator. Command switches can cluster up to 15 additional interconnected member switches, regardless of their interconnection media. The Catalyst 3508G XL is an optimal command switch when deployed as a high-performance aggregator.

Web-Based Switch Management: Cisco Visual Switch Manager

The Catalyst 3508G XL features a Web-based Cisco management tool, Cisco Visual Switch Manager (CVSM), which allows network administrators to view and manage the switch from anywhere on the network through a standard browser such as Microsoft Internet Explorer or Netscape Navigator. Launched from the switch itself, CVSM delivers simple network- and device-level management, including port configuration, virtual LAN (VLAN) setup, network views, and port monitoring. CVSM is an integral part of the Cisco scalable stacking architecture, allowing users to easily configure and manage stacks and switch clusters, and administer software upgrades across multiple switches.

Standard Edition Software

Cisco Catalyst 3500 series XL Standard Edition switches include several exceptional features to increase network performance, manageability, and security. The command switch feature delivers single-IP managed Cisco Switch Clustering technology for up to 16 interconnected Catalyst 3500 XL, 2900 XL, and Catalyst 1900 switches. Gigabit EtherChannel technology offers higher-performance bandwidth between Catalyst switches, routers, and servers. Cisco Group Management Protocol (CGMP) enhances performance of multimedia applications and reduces network traffic by allowing a switch to selectively and dynamically forward IP multicast traffic to targeted end stations. Up to 250 port-based VLANs per switch allow data packets to be forwarded only to stations within a specific VLAN, creating a virtual firewall between groups of ports on the network. Network Time Protocol (NTP) provides a unified clock across the network, ensuring accurate time stamps for troubleshooting all network events. Media Access Control (MAC)-based port-level security prevents unauthorized stations from accessing the switch. Multi-layer security on the switch console prevents unauthorized users from gaining access and altering the switch configuration. All Standard Edition switches can be upgraded with the purchase of an optional Enterprise Edition upgrade kit.

Enterprise Edition Software

Enterprise Edition software includes all the features of the Standard Edition, and adds enhanced end-to-end VLAN support to your Catalyst 3500 series XL switch. Virtual LAN trunks can be created from any port using either 802.1Q trunking or the Cisco Inter-Switch Link (ISL) VLAN architecture. VLANs using standards-based 802.1Q and ISL trunking provide broadcast control and enhanced security, and simplify adds, moves, and changes. TACACS+ authentication enables centralized access control of the switch and restricts unauthorized users from altering the configuration. Uplink Fast technology ensures quick failover recovery, enhancing overall network stability and reliability. An Enterprise Edition switch is the best choice for a network requiring a higher level security, superior fail-safe redundancy, and end-to-end VLANs spanning multiple routers, switches, and access servers.

Key Features/Benefits

Exceptional Performance

- Eight GBIC-based Gigabit Ethernet ports deliver up to 5-Gbps aggregated forwarding bandwidth to a switch cluster.
- 10-Gbps switching fabric and 7.5 million packets-per-second forwarding rate.
- 4-MB shared-memory architecture ensures the highest possible throughput, with a design that eliminates head-of-line blocking, minimizes packet loss, and delivers better overall performance in environments with extensive multicast and broadcast traffic.
- Full-duplex operation on all ports delivers up to 2 Gbps on 1000BaseX ports.

- 8-MB DRAM and 4-MB Flash memory on board enable the addition of a continuous stream of feature upgrades, maximizing customer investments.
- Eight priority forwarding queues on each Gigabit Ethernet port enable network traffic prioritization and seamless data, voice, and video integration (enabled through a future software upgrade).
- Bandwidth aggregation through Gigabit EtherChannel technology enhances fault tolerance and offers higher-speed aggregated bandwidth between switches, to routers and individual servers.
- A configurable network port supports unlimited MAC addresses for backbone connectivity.

Flexible and Scalable Switch Clustering and Stacking

- GigaStack GBIC delivers a low-cost hardware-based, independent stack bus with up to 1-Gbps forwarding bandwidth in a daisy-chain configuration with up to nine Catalyst 3500 XL or gigabit-enabled Catalyst 2900 series XL switches or 2-Gbps forwarding rate in a point-to-point configuration.
- Cisco Switch Clustering technology allows the user to manage up to 16 interconnected Catalyst 3500 XL, 2900 XL, and Catalyst 1900 switches through a single IP address, without the limitation of being physically located in the same wiring closet or building.
- GBIC-based Gigabit Ethernet ports give customers a choice of 1000BaseSX, 1000BaseLX/LH or Cisco GigaStack GBICs to fit their connection needs.

Ease of Use and Ease of Deployment

- Cluster software upgrade feature allows the network manager to quickly and easily upgrade the system software on a group of Catalyst 3500 XL, and 2900 XL, and Catalyst 1900 switches.
- IEEE 802.3z-compliant 1000BaseSX and 1000BaseLX/LH physical-interface support through a field-replaceable GBIC module provides customers unprecedented flexibility in switch deployment.
- Autoconfiguration eases deployment of switches in the network by automatically configuring multiple switches across a network via a boot server.
- Default configuration stored in Flash ensures that the switch can be quickly connected to the network and can pass traffic with minimal user intervention, preserving the configuration in case of a power outage.

Integrated Cisco IOS Switching Solution

- CGMP enables a switch to selectively and dynamically forward routed IP multicast traffic to targeted multimedia end stations, reducing overall network traffic.
- CGMP Fast Leave allows end stations to quickly exit from a multicast session, reducing superfluous traffic on the network.
- Virtual LAN trunks can be created from any port using either standards-based 802.1Q tagging or Cisco ISL VLAN architecture.
- IEEE 802.1p Layer 2 prioritization protocol ready, allowing users to assign data packets to prioritized forwarding queues.
- Cisco Virtual Trunking Protocol (VTP) supports dynamic VLANs and dynamic trunk configuration across all switches.
- Per-port broadcast storm control prevents faulty end stations from degrading overall systems performance with broadcast storms.
- Command-line-interface (CLI) support provides common user interfaces and command sets across all Catalyst series switches and Cisco routers.

Superior Manageability

- Built-in CVSM provides an easy-to-use Web-based management interface through a standard browser such as Netscape Navigator or Microsoft Explorer.
- Simple Network Management Protocol (SNMP) and Telnet interface support delivers comprehensive in-band management, and a CLI-based management console provides detailed out-of-band management.
- Manageable through CiscoWorks 2000 network management software on a per-port and per-switch basis, providing a common management interface for Cisco routers, switches, and hubs.
- Cisco Discovery Protocol (CDP) enables a CiscoWorks network management station to automatically discover the switch in a network topology.
- An embedded Remote Monitoring (RMON) software agent supports four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis.
- Support for all nine RMON groups through use of a Switch Port Analyzer (SPAN) port that permits traffic monitoring of a single port, a group of ports, or the entire switch from a single network analyzer or RMON probe.
- Domain Name System (DNS) client support provides IP address resolution with user-defined device names.
- Trivial File Transfer Protocol (TFTP) reduces the cost of administering software upgrades by downloading from a centralized location.
- NTP provides an accurate and consistent timestamp to all switches within the intranet.
- Multifunction LEDs per port for port status, half-duplex/full-duplex, and 10BaseT/100BaseT indication as well as switch-level status LEDs for system, redundant power supply (RPS), and bandwidth utilization provide a comprehensive and convenient visual management system.

Security and Redundancy

- Cisco Uplink Fast technology ensures quick failover recovery, enhancing overall network stability and reliability (Enterprise Edition only).
- Support for TACACS+ authentication enables centralized control of the switch and restricts unauthorized users from altering the configuration (Enterprise Edition only).
- MAC-based port-level security prevents unauthorized stations from accessing the switch.
- User-selectable address learning mode simplifies configuration and enhances security.
- Multilevel security on console access prevents unauthorized users from altering the switch configuration.
- IEEE 802.1D Spanning-Tree Protocol support for redundant backbone connections and loop-free networks simplifies network configuration and improves fault tolerance.
- Support for redundant loopback connection through secondary GigaStack GBICs in top and bottom switches in a stack.
- Support for optional, Cisco 600-watt redundant AC power system provides a backup power source for up to four units for improved fault tolerance and network uptime.

Technical Specifications

Performance

- 10-Gbps shared memory switching fabric with 5-Gbps peak forwarding bandwidth
- 7.5-million pps wire-speed forwarding rate for 64-byte packets
- 4-MB memory architecture shared by all ports
- Packet forwarding rate for 64-byte packets: 1,488,000 pps to 1000BaseX ports
- 8-MB DRAM and 4-MB Flash memory
- 8192 MAC addresses

Management

- SNMP Management Information Base (MIB) II, SNMP MIB extensions, bridging MIB (RFC 1493)

Standards

- IEEE 802.3x full duplex
- IEEE 802.1D Spanning-Tree Protocol
- IEEE 802.1Q VLAN
- IEEE 802.3z, IEEE 802.3x 1000BaseX specification
- 1000BaseX (GBIC)
  - 1000BaseSX
  - 1000BaseLX/LH

Y2K

- Y2K compliant

Connectors and Cabling

- 1000BaseX GBIC-based ports: SC fiber connectors, single-mode or multimode fiber
- GigaStack GBIC ports: copper-based Cisco GigaStack cabling
- Management console port: RJ-45 connector, EIA/TIA-232 serial cabling

Indicators

- Per-port status LEDs—link integrity, disabled, activity, speed, and full-duplex indications
- System status LEDs—system, RPS, and bandwidth-utilization indications

Dimensions and Weight (H x W x D)

- 1.75 x 17.5 x 16 in. (4.4 x 44.5 x 40.6 cm)
- One rack unit (RU) high
- 12 lb (5.4 kg)

Environmental Conditions and Power Requirements

- Operating temperature: 32 to 113 F (0 to 45 C)
- Storage temperature: –4 to 149 F (–20 to 65 C)
- Operating relative humidity: 10 to 85% noncondensing
- Operating altitude: up to 10,000 ft (3000 m)
- Power consumption: 70W maximum; 239 BTU per hour
- AC input voltage/frequency: 100 to 120/200 to 240 VAC (autoranging) 50 to 60 Hz
- MTBF 150,000 hours

Safety Certifications

- UL 1950
- CSA 22.2 No. 950
- EN 60950
- IEC 950
- AS/NZS 3260, TS001
- CE

Electromagnetic Emissions Certifications

- FCC Part 15 Class A
- EN 55022B Class A (CISPR 22 Class A)
- VCCI Class A
- AS/NZS 3548 Class A
- BCIQ
- CE marking

Warranty

- Lifetime limited warranty

Ordering Information

Model Numbers

- WS-C3508G-XL-A (8-port 1000BaseX, Standard Edition)
- WS-C3508G-XL-EN (8-port 1000BaseX, Enterprise Edition)

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